DOCUMENT RESUME

ED 365 952 CS 011 544

AUTHOR vanKraayenoord, Christina E.; Paris, Scott G.
TITLE Self-Assessment: Children's Perspectives on Their Literacy Activities in the Classroom.
PUB DATE Dec 93
NOTE 11p.; Paper presented at the Annual Meeting of the National Reading Conference (43rd, Charleston, SC, December 1-4, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Elementary School Students; *Evaluation Methods; Foreign Countries; Intermediate Grades; Metacognition; *Reading Achievement; Reading Research; *Self Evaluation (Individuals); *Student Evaluation; *Writing Achievement
IDENTIFIERS *Australia

ABSTRACT

A study investigated whether a teacher-pupil conference could serve as a vehicle for gathering data from children on the self-assessment of learning. The "Worksamples Interview" (a 10-item questionnaire that focuses on different dimensions of children's work) was used with 93 children in Years 4, 5, and 6 in one school in a large city in Australia. Children selected work samples from their own collections that represented particular features and provided explanations and self-evaluations. Results indicated that: (1) the children reflected on the features and provided both cognitive and affective evaluations; (2) a developmental trend was evident in many responses; and (3) although no difference was found on the Total Worksample Interview Score between good and poor readers, the Total Score did correlate with scores in tasks assessing strategic reading, attitudes toward school, and literacy habits outside school. Findings suggest that the Worksamples Interview taps metacognitive abilities related to strategic and motivated literacy learning. Findings also suggest that the Worksamples Interview holds promise as an assessment tool that teachers can use in conference settings with artifacts, performance assessments, and portfolios. (Three tables of data are included and the Worksamples Interview is attached. Contains 13 references.) (Author/RS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 365 952

Self-assessment: Children's perspectives on their literacy activities in the classroom

Christina E. van Kraayenoord
University of Queensland
and
Scott G. Paris
University of Michigan

"PERMISSION TO REPRODUCE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY
C.E. van Kraayenoord
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

Paper presented at the 43rd Annual Meeting of the National Reading Conference,
Charleston, South Carolina, 1-4 December, 1993

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Correspondence to:
Dr. C.E. van Kraayenoord
Schonell Special Education Research Centre
The University of Queensland
Brisbane, Queensland 4072
Australia

CS011544

Abstract

This paper describes the use of the Worksamples Interview with 93 children in Years 4, 5 and 6 in one school in a large city in Australia. The Worksamples Interview is a 10 item questionnaire that focuses on different dimensions or features of children's work, and is undertaken in a teacher-pupil conference setting using pupils' worksamples. Children are asked to select worksamples from their own collection that represent particular features and to provide explanations and self-evaluations.

The children in this study were able to reflect on the features and provide both cognitive and affective evaluations. A developmental trend was evident in many of their responses, with the children better able to discuss their worksamples with increased age. Although, no difference was found on the Total Worksamples Interview Score between good and poor readers, the Total Score did correlate with scores on tasks assessing strategic reading, attitude towards school, and literacy habits outside school. This suggests that the Worksamples Interview taps metacognitive abilities related to strategic and motivated literacy learning.

We believe the Worksamples Interview holds promise as an assessment tool that teachers can use in conference settings with artefacts, performance assessments, and portfolios. The development of self-regulated and independent learning occurs when teachers assist pupils in becoming aware that they can assess their work using different, criteria, and when pupils use that knowledge to become effective literacy learners. We believe the Worksamples Interview facilitates that goal.

BEST COPY AVAILABLE

Self-assessment: Children's perspectives on their literacy activities in the classroom

Many classroom teachers are beginning to make performance-based assessment, portfolios, and other authentic literacy assessment activities part of their instruction in the language arts. The use of such assessment approaches has meant that learners are more actively involved in the assessment of their literacy learning than has been the case with traditional forms of assessment (Calfee, 1991; Hiebert & Hutchison, 1991; Mills, 1989; Paris & van Kraayenoord, 1992; Wiggins, 1989). Authentic assessment approaches provide pupils with opportunities to engage in performances that allow them to display their knowledge, skills, processes and strategies, as well as their attitudes and motivation. Assessment is authentic when it occurs in real contexts with purposeful tasks that are related to pupils' classroom curricula and learning. Such assessment is intended to provide detailed and comprehensive information to teachers and parents about the development of children's literacy. The information gained via authentic assessment approaches is used to establish children's individual needs, and to tailor instruction to meet those needs.

One of the central elements of authentic assessment is the use of self-assessment. Self-assessment includes both self-reflection and self-evaluation on the part of the learner and helps to develop feelings of ownership and responsibility for personal learning (van Kraayenoord, in press). Assessment tasks that provide opportunities for pupils to become self-reflective and to articulate awareness and understanding of their own work, are crucial in assisting students to become independent learners. When pupils monitor their progress over time and set goals for their future learning, they develop control over their own literacy development.

Current models of portfolio assessment emphasize how different classroom tasks can enhance self-assessment (Tierney, Carter & Desai, 1991; van Kraayenoord, in press; Weeks & Leaker, 1991). Van Kraayenoord (in press) has suggested that the tasks that foster self-assessment include activities such as: reviewing artefacts, understanding progress through record keeping, documenting interests, choices and preferences, conferences with teachers, collaborative writing, and sharing personal responses. Each of these activities requires pupils to take initiative in monitoring and revising their work.

Conferences around worksamples executed by learners in classrooms provide excellent opportunities to gain information about perceptions of pupils' literacy learning. Although there has been much discussion in the literature that such conferences, when undertaken regularly, allow teachers to gather insights into students' awareness of strengths and weaknesses in their work and their literacy progress, there has been no systematic study of how different dimensions or features could be targetted for self-assessment and be incorporated into pupil-teacher conferences. Thus, in this study, we were interested to see if children could make selections of individual worksamples from amongst their classroom activities based on particular dimensions or features that we suggested, and provide insights, explanations, and self-evaluations of their work according to the criteria-driven appraisals. For example, we believed that we could learn something about students' notions of "pride" and "sharing", attributes which reflect emotional or affective responses to literacy tasks, by including these and other similar aspects explicitly in teacher-pupil conferences that encouraged self-assessment. In this paper we describe how a teacher-pupil conference can serve as a vehicle for gathering data from children on the self-assessment of learning.

Method

The Participants

The children who participated in the study were in Years 4, 5, and 6 (equivalent to Grades 3, 4, and 5 in the United States) at a suburban school in one of Australia's largest cities. At each Year level there were two classes. Some of the children were in single classrooms and some children were in composite classes in a double teaching space. The children were part of a larger research project and had been involved in the study during a three-month period two years earlier when they participated in a similar range of assessment

activities (see Paris & van Kraayenoord, in preparation). The pupils were known to the three research assistants who were assigned to each Year level and collected the data.

The Task

Prior to undertaking this activity, the children were told that they would be asked to bring worksamples that they had done in class over the preceding two or three weeks for discussion in an interview with one of the research assistants. No restrictions were put on the scope of the work that was collected, and it was expected that the worksamples would be included from all curriculum areas, including mathematics, science, and social studies. The worksamples would provide the stimuli and focus for the interview.

The Worksamples Interview (Paris, Turner, Muchmore, & Perry, in preparation) is a 10 item questionnaire that allows teachers and researchers to examine the quality of children's self-assessment of their work. Each question asks the children to consider the worksamples they have brought to the conference in terms of a different dimension or feature (see Appendix 1). The items call for appraisals of the worksamples relative to: (1) pride, (2) difficulty, (3) self-review, (4) sharing with parents, (5) evaluation by teachers, (6) personal progress, (7) ability in reading, (8) ability in writing, (9) self-assessment of strengths and weaknesses in non-language-arts domains, and (10) future development. Each item or question has two parts. The first part of Question 1, for example, asks: "Which one of these things are you really proud of?" This question is followed by the question: "Why are you proud of it?" In reply to the first question the children select one of the worksamples that they are proud of. The examiner notes the type of work and genre or other distinguishing characteristics of the artefact selected. For example, one Year 6 child chose her "Camp Book", a book mainly created during a week long residential camp containing stories, poetry, scientific reports, completed work sheets, duty rosters, illustrations, photos etc. The pupil then responded to the second question with the phrase: "Because it took about two weeks to do. [Children worked on their Camp Books before they left for camp, during camp, and on their return.] I used a lot of pictures and put in a lot of information. I'm proud because I've got photos in it of other people to remind me of the camp." The interview form also has space to record the number of worksamples and to list the worksamples.

Procedure

Data were collected during May after the children had been in school for four months. (The school year begins in Queensland in late January). The children were taken individually from their classroom to a withdrawal area and interviewed about their worksamples in a manner similar to teacher-pupil conference. The interview took 20-35 minutes to complete. All responses were written verbatim on the answer sheet. Where responses were unclear, the children were asked "Can you explain that a bit more".

Scoring

In developing the scoring guide it was our belief that children who reflected on their own work should be able to explain what they did well and what needed improvement, what was difficult and why, how various worksamples reflected their talents and efforts, and how they planned to improve in the future. The responses to the two parts of each item were scrutinized and evaluated holistically together.

The responses received a score of 0, 1, or 2 based on the depth of the child's insight, explanation, and self-evaluation. A score of 0 indicated that the child did not assess the dimension or feature addressed by the question (e.g., pride, difficulty etc.), gave no response, answered "I don't know", "All of them", or "I'm not sure", or gave an ambiguous response. If the child pointed to a worksample that did elicit pride or was difficult, but was unable to elaborate a reason or explanation for the judgment a score of 0 was given. A score of 1 was assigned to replies that showed some evaluation of the worksample relative to the dimension or feature required, but the explanations, reactions, and feelings focused on superficial characteristics of the work (e.g neatness, length). A score of 2 was given if the responses indicated that the child was able to evaluate the worksample according to the required feature and had shown some insight for the personal judgments.

For example, Question 6 taps children's ability to evaluate their personal progress. The question is:

"Are you getting better with your reading and writing? How can you tell if your reading and writing are improving?"

A Year 6 child responded:

"Yes, [in reading] my reading partner praises me. If I read a book again and understand it more, I know I've improved. [in writing] If I look at the beginning of my [writing] book and compare [it] to now, I know I've improved".

These responses, examined together, were given a score of 2.

In contrast, another Year 6 child, in reply to the same item, answered:

" [in reading] I don't make as many mistakes, [in writing] mainly neatness and spelling".

This was given a score of 1. The scores were then summed across the 10 items to create a Worksamples Total Score with a range from 0 to 20.

In order to establish the reliability of the scoring, a second coder was trained in the scoring guidelines and scored five scripts at each year level. Fifteen children's answers were compared for the ten items. Across the 150 pairs of scores judges agreed on 146 of 150 to equal 97% of agreement.

Results

Ninety-three pupils took part in the Worksamples Interview. Table 1 presents the number of boys and girls at each year level and their mean ages. The results indicate that there were more boys than girls in Years 4 and 5 and in these two year levels the girls were slightly older than the boys. In Year 6, girls outnumbered boys and they were slightly younger than the boys. A Year x Gender ANOVA revealed no differences in age due to Gender.

Insert Table 1 about here

Each child brought a number of worksamples to the interview. Typically, children brought between 6 and 15 artefacts with them. (Sometimes an artefact was an exercise book in a particular curriculum area in which the children had been working from the beginning of the year). Children were drawn from two classrooms at each Year level and individual worksamples were slightly different across classrooms. Nevertheless, the range of artefacts within a year level was similar. The range of worksamples for the Year 4 children included: 3-D pictures, poetry, narrative writing, writing and illustrations related to a social studies topic, maths exercise books or worksheets, "retrieval" charts completed in science, retellings of narrative stories or poems they had read or heard, spelling tests, "word finds", self-made calendars, summaries, and science reports. Pupils in Year 5 based their appraisals and responses on worksamples which included: their Camp Book, maths exercise books, "reading friends' folders", reading contracts, narrative written expression, homework books, social studies projects, letters of thanks (e.g., to camp parents), poetry, spelling tests, self-made comic books, language arts worksheets, maths worksheets, and written notes for a speech. The worksamples from the Year 6 students included: mathematics worksheets, theme work (some children in one Year 6 class were working on the theme "The 3 Rs: Reduce, Reuse and Recycle"), science, poetry, language arts worksheets, Camp Books, self-made brochures, history projects, letters (related to a social studies theme), maths exercise books, diaries (related to a language arts activity), Japanese worksheets (many schools in the state of Queensland have classes in learning another language for all pupils at the Year 6 level), library search activities, written reports, crosswords, and retellings. All of the worksamples were required activities in the various curriculum areas and had been set by the classroom teacher or school librarian, and in Year 6, by the Japanese language teacher.

In order to examine the differences amongst the children in terms of year level or gender on the various Worksample Interview items, a 3 x 2 MANOVA was applied to each of the Interview items, with three levels of Years (Years 4, 5, and 6) and two levels of

Gender (male, female). These were followed by univariate F tests to determine the main effects and interactions.

The initial results of Box's M test for Homogeneity of Variance was significant suggesting some heterogeneity. However, Box's M is especially sensitive to deviations from the assumption of homogeneity, and therefore we continued with the multivariate tests. Interpretations of the results should keep this finding of heterogeneity in mind. Results from the MANOVAs revealed a significant main effect for Year, $F(20, 158) = 4.23$, $p < .001$, and a significant main effect for Gender, $F(10, 78) = 1.97$, $p < .05$, but no interaction effect.

An examination of the Univariate F tests for the individual items revealed that the main effect for Year was located in Item 4–sharing with parents, $F(2, 87) = 8.61$, $p < .001$), Item 7–reading ability, $F(2, 87) = 6.58$, $p < .01$, Item 8–writing ability, $F(2, 87) = 11.71$, $p < .001$, Item 9–self-assessment, $F(2, 87) = 5.63$, $p < .01$, and Item 10–future development, $F(2, 87) = 6.49$, $p < .01$. The main effect for Gender was located in Item 9–self-assessment, $F(1, 87) = 7.90$, $p < .01$, and Item 10–future development, $F(1, 87) = 7.33$, $p < .01$. The mean scores and standard deviations for the items that were significantly different are shown in Tables 2 and 3.

Insert Tables 2 and 3 about here

Post hoc analyses (one-tailed t-tests) indicate that both the Year 5 and 6 children provided appraisal responses about sharing work with their parents [$t(df\ 87) = 3.46$, $p < .01$] and perceptions of their reading ability [$t(df\ 87) = 2.98$, $p < .01$] and writing ability [$t(df\ 87) = 2.75$, $p < .01$], that were significantly different from responses given by pupils in Year 4. That is, the older the children were, the higher their scores on these items.

An interpretation of the results relating to these items shows that the responses of the Year 6 students revealed that they were more likely to indicate a willingness to share their school work with their parents and had a more positive view of sharing it than younger pupils. In comparison to the younger pupils, the Year 6 pupils could identify worksamples that reflected both their reading ability and writing ability. Furthermore, their reasons for their selection focused more on cognitive or motivational aspects of their ability to read or write, or referred to more complex or salient elements of the worksample. For example, one Year 6 child, when commenting on the narrative piece she had written and selected as demonstrating her writing ability, entitled 'Whitby Abbey', said "It's detailed and has lots of interesting information in it. It's longer and I don't have to think about what to put down on paper. It flows".

Planned comparisons also reveal that Year 5 pupils scored significantly higher than the children in Year 4 and Year 6 on the item relating to the need for improvement in non-language arts or non-academic areas [$t(df\ 87) = 3.28$, $p < .01$]. The Year 5 pupils also signalled that they were more optimistic about future learning and provided reasons based on cognitive and motivational evaluations than pupils in Year 4 [$t(df\ 87) = 3.21$, $p < .01$], and pupils in Year 6 [$t(df\ 87) = -3.10$, $p < .01$].

Additionally, in terms of Items 9 and 10, girls overall were better than boys in providing insights, reasons, and explanations for their self-assessments of their non-language arts work that required improvement (Item 9), and about their optimism for future learning, based on qualities such as enjoyment, other people's assessments of their abilities, or links with career goals (Item 10). A closer examination of the gender differences showed that many of the girls commented that the areas in which they were trying to improve were mathematics and neatness in their handwriting The girls also appeared to be more confident in their future endeavours in a wide range of areas (e.g., tennis, written expression, mathematics). Their attributions for success related to factors such as their current ability, enjoyment, the time and effort spent on the domain now, and their stated belief that they could see personal improvement in the domain.

In addition to examining the effects of age and gender, we also wanted to determine whether or not reading achievement influenced the responses on the Worksamples Interview. Therefore, at each year level, the children were grouped according to their

reading ability: "good reading achievement" and "poor reading achievement". In order to do this, the scaled scores on the Test of Reading Comprehension (TORCH: Mossenson, Hill & Masters, 1987) were used. The median score for each year level was determined and those above the median score were assigned to the "good reading achievement" group and those below the median were assigned to the "poor reading achievement" group. The median scores were 44, 51, and 53 for the pupils in Years 4, 5, and 6 respectively. Two of the 93 children for whom we had no TORCH scaled scores were dropped from the analyses, leaving a sample of 91 pupils.

A 2 x 3 x 2 (Ability x Year x Gender) ANOVA was computed, with good reading achievement and poor reading achievement associated with the Ability variable, Years 4, 5, and 6 representing the Year variable, and male and female comprising the Gender variable. Using the Worksamples Total Scores as the dependent variable, the results of the ANOVA indicated no main effect for reading achievement nor interaction effects. This suggests that the Worksamples Total Score is not dependent on reading achievement as measured by the TORCH, and therefore other self-assessment abilities are being tapped by the Worksamples Interview. There was, however, a significant effect for Year, $F(2, 90) = 6.91$, $p < .01$ and Gender, $F(1, 90) = 7.08$, $p < .01$. In summary, the results from the analyses comparing high and low ability readers showed that reading achievement did not influence performance on the Worksamples Interview, but as was suggested by the earlier analyses, the year level and the gender of the pupils did effect performance on the Worksamples Interview overall and on particular Interview items. Furthermore, the lack of difference between achievement groups may also mean wide variability within the groups on the TORCH.

Finally, because the Worksamples Interview was conducted alongside a number of other assessment activities (see Paris & van Kraayenoord, in preparation), we were able to establish how the Worksamples Interview was related to other literacy assessment tasks. Despite the fact that there was no significant main effect for reading ability, the correlation between the pupils' scores on the TORCH and Total Scores on the Worksamples Interview was .36. This modest correlation indicates that the ability to describe worksamples and demonstrate deep understanding of your own work is related to reading ability on some dimensions, but self-assessment and reading achievement are not redundant or highly related. The Worksamples Total Score was also modestly correlated with Literacy Habits (Paris & van Kraayenoord, in preparation) ($r = .27$), a brief measure of children's reading and writing habits outside school and students' motivation assessed with the School Attitude Measure (Wick, 1991) ($r = .33$). The most striking correlation was with Strategic Reading (Paris, Cross, & Lipson, 1984) ($r = .56$) which provides an index of children's metacognition about reading strategies. Thus, the ability to review and reflect on one's own worksamples may be embedded in one's ability to evaluate literacy strategies and tasks more broadly.

Discussion

The purpose of this study was to examine how pupils evaluate classroom work, in a teacher-pupil conference situation. We asked students to make appraisals of samples of their work on the basis of specific dimensions or features, and to provide explanations and reasons for their selection. We believe that the quality of pupils' comments suggests that children are able to self-reflect and provide both cognitive and affective evaluations according to particular features that influence learning.

The findings indicate that in this sample of Year 4, 5, and 6 pupils, there was a developmental trend in many of their responses. As the children progressed from grade to grade they were better able to select and judge their worksamples according to the particular dimensions. They were also more able to discuss their worksamples, with their comments becoming more insightful with age. The year effects, however, also reflect classroom practices and teachers' instruction. These factors may have influenced some of the year differences, such as the peculiar Year 5 effect on two items. The findings also indicate a gender effect, with girls providing more sophisticated and elaborated responses than boys. This suggests that girls may be more cognisant of particular features of their work that relate to improvement and future expectations.

The Total Score on the Worksamples Interview was also correlated with scores on tasks assessing strategic reading, attitude towards school, and literacy habits outside school. Thus, the ability to self-assess one's work is linked to the ability to evaluate literacy strategies. This suggests metacognitive abilities are necessary for both of these tasks. Furthermore, the modest correlations between attitude towards school and literacy habits outside school and the Total Worksamples Interview Score may suggest a link between metacognitive and motivational attributes tapped by these tasks.

We believe that the Worksamples Interview can be used in everyday classroom situations to facilitate teacher-pupil conferences around children's work By targeting particular dimensions or features of pupils' work within interview questions, teachers will be able to construct more comprehensive and accurate profiles of children's abilities to evaluate their own performance. The information that teachers gain can be used diagnostically for instruction. Instructional activities that address the elements in the worksamples that the children have identified as "difficult" or "need improving", and that maximize the "strengths", that is, the abilities displayed in the products that the children say they are especially proud of, may be particularly important for literacy progress.

Teachers can use the Worksamples Interview without quantifying and scoring the responses, and instead employ the questions as a framework around which to more explicitly structure a teacher-pupil conference. Teachers could also ask additional questions during the interview to query specific projects, goals, or strategies. For example, teachers might ask children how they helped their partners read and write.

When teachers target particular features of literacy learning, pupils will become aware that they can assess their work using different criteria. Teachers who discuss criteria and standards of work alert children to the idea that these elements should be considered during self-assessment, and become part of their monitoring routines. This awareness is crucial to the development of self-regulated learning (Paris & Newman, 1990).

Awareness of particular features of their work will also assist pupils in talking about their work with their parents. Discussions of portfolios and worksamples between children and their parents will become more focused, and provide opportunities for parents to become involved in negotiating future learning goals with their children.

The Worksamples Interview also has many possibilities as a research tool. We would like to see researchers adapt the Interview and examine other features of children's work, as well as use the measure with other populations.

Based on the results of this study and the creative possibilities of this assessment instrument, we believe that the use of a structured interview such as the Worksamples Interview around artefacts, performance assessments, and portfolios holds much promise. Assessment measures, such as the Worksample Interview, encourage pupils to become actively engaged in their learning. Children, who as a consequence of their self-assessment respond strategically to improve their literacy performance, will become independent literacy learners.

References

Calfee, R.C. (1991). Authentic assessment of elementary literacy: A question of realities. Kamehameha Journal of Education, 2, 71-76.

Hiebert, E.H., & Hutchison, T.A. (1991). Research directions The current state of alternative assessments for policy and instructional uses. Language Arts, 68, 662-668.

Mills , R.P. (1989). Portfolios capture rich array of student performance, The School Administrator, December, 8-11.

Paris, S.G., Cross, D.R., & Lipson, M.Y. (1984). Informed strategies for learning: A program to improve children's reading awareness and comprehension. Journal of Educational Psychology, 76, 1239-1252.

Paris, S.G., & Newman, R.S. (1990). Developmental aspects of self-regulated learning. Educational Psychologist, 25, 87-102.

Paris, S.G., Turner, J.C., Muchmore, J., & Perry, N. (in preparation). A case study of literacy portfolios in an elementary school.

Paris, S.G., & van Kraayenoord, C.E. (in preparation). Innovative tasks to assess children's literacy development, strategies and motivation.

Paris, S. G., & van Kraayenoord, C.E. (1992). New directions in assessing students' reading. Psychological Test Bulletin, 5, 20-27.

Tierney, R.L., Carter M.A., & Desai, L.E. (1991). Portfolios in the reading-writing classroom. Norwood, MA: Christopher Gordon.

van Kraayenoord, C.E. (in press). Toward self-assessment of literacy learning. Australian Journal of Language and Literacy.

Weeks, B., & Leaker, J. (1991). Managing literacy assessment with young learners. Adelaide, South Australia: ERA Publications.

Wick, J.W. (1991). School attitude measure. Iowa City, IA: American Testronics.

Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. Phi Delta Kappan, 70, 703-713.

Table 1

Mean Age in Months of Participants at Each Year Level

Year	Boys			Girls		
	N	Mean Age (months)	SD	*N*	Mean Age (months)	SD
Year 4	17	106.1	3.6	11	107.1	4.6
Year 5	17	117.9	5.2	11	119.0	4.0
Year 6	15	130.6	5.3	22	129.1	4.5

Table 2

Means and Standard Deviations for Significant Items Indicating Year Effects

Items	*N*	M	SD
Item 4			
Year 4	28	1.11	.92
Year 5	28	1.71	.53
Year 6	37	1.76	.49
Item 7			
Year 4	28	1.18	.72
Year 5	28	1.21	.88
Year 6	37	1.73	.45
Item 8			
Year 4	28	.82	.61
Year 5	28	1.11	.83
Year 6	37	1.62	.49
Item 9			
Year 4	28	1.25	.89
Year 5	28	1.86	.45
Year 6	37	1.73	.61
Item 10			
Year 4	28	1.54	.58
Year 5	28	1.96	.19
Year 6	37	1.65	.54

Table 3

Means and Standard Deviations for Significant Items Indicating Gender Effects

Items	*N*	M	SD
Item 9			
Males	49	1.43	.82
Females	44	1.84	.48
Item 10			
Males	49	1.59	.54
Females	44	1.84	.43

Appendix 1

Worksamples Interview

Have each child collect worksamples from the last two weeks or so and find a quiet place to have a conference about them. Say "I'm interested in learning about the kinds of things you have been doing in class. Can you show me what you've been working on?"

Name _____ Grade _____ Date _____

Number of Worksamples: _____

Worksamples: _____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

1. Which one of these things are you really proud of?
   Why are you proud of it?
2. Which one of these things was very difficult?
   What made it so difficult for you?
3. How often do you look back at work you did earlier and think about your own learning?
   How do you feel when you review your work?
4. Have you shown any of these things to your parents?
   Do you like to show your work to your parents?
5. Did the teacher give you marks on any of this work or tell you what work was good and what needed improving?
   How do you feel when the teacher evaluates your work?
6. Are you getting better with your reading and writing?
   How can you tell if your reading and writing are improving?
7. Show me one piece of work here that shows that you are a good reader.
   How does it show your reading ability?
8. Show me one piece of work here that shows that you are a good writer?
   How does it show your writing ability?
9. What other things are you trying to improve on in school?
   How do you know what you need to do better on?
10. How do you think you will do as a student in the next few years?
    What will you be very good at? How can you tell?